

Fig. 3

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	HOST/MS (DHCP Client)	SGSN		GGSN (DHCP relay)	lSP (DHCP server)	er)
]	Activate PDP context request		SGSN performs:	ctatic		
	{Access Point Name (APN), PDP-type=IP, QoS=4 (BE), end-to-end config.request}		or dynamic QoS reservation-dynamic selected)APN->GGSN address translation via Domain Name System (DNS)	ation	GGSN performs: -APN->ISP address translation via DNSAllocates a DHCP- relay to the PDP request. No IP address is	0. 0
			Create PDP context request	quest	allocated.	<del></del>
		1	(APN,PDP-type=IP, QoS=4(BE), TID, end-to-end config. request	=4(BE), equest)		
·····	Activate PDP context accept		Create PDP context response	sponse		
	{QoS=4 (BE), NSAPI, end-to-end confirm}	15	(1ID, end-to-end confirm, QoS-4(BE)}	, E		·, · · · · ·
	An IP bearer is established between the host/MS and the chosen DHCP-relay. The host/MS does not have an IP		Bearer established at LLC for all subscribed QoS delay classes.	S delay		
	address.					-

Signalling Sequence for IP Host Configuration.

	SGSN (DHCP-relay)	elay) (DHCP-server)
UDP(DHCPDISCOVER)		
{OPTIONS (host-ID=Peer-ID, lease_time, DHCP authentication token=Password)}	GGS Ager Confi DHC Set Ager Subi	UDP(DHCPDISCOVER) (OPTIONS: Agent Remote Id=IMSI, SubnetMask)
,	UDP(DHCPOFFER)	
UDP (DHCPREQUEST)		multiple DHCPOFFER messages might be received
(OPTIONS (DHCP server ID,))		
	UDP(DHCPACK)	
	{yiaddr=IP-addr, OPTIONS (lease_time,)}	GGSN stores IP address for MS and PDP context

Signalling Sequence for IP Host Configuration.

LLC I or supervisory frame { N(R)=V(R), MSid, QoS delay class, downlink}  downlink}  GTP update PDP context response { MSid, TID, QoS=x, bw = max/mear} bit rate + bucket depth, downlink}  If the bandwidth increase is accepted by the SGSN, the GGSN may optionally refresh the bandwidth of the IP tunnel towards the SGSN that the MS is attached to for the particular QoS delay class. These IP tunnels per SGSN/QoS delay class are preferably dimensioned so they do not become bottlenecks and are adjusted for each additional MS flow request.  The GGSN sends an updated RSVP RESV message towards the next router (possibly combining requests from several MSs for the same flow).	·			RSVP RESV	(FLOWSPEC, FILTERSPEC, session id)
LLC I or supervisory frae { N(R)=V(R), MSid, QoS delication of the band width increase is optionally refresh the band that the MS is attached to the funnels per SGSN/QoS they do not become bottler MS flow request.  The GGSN sends an updain next router (possibly combisame flow).	me ay class,	GTP update PDP context response  { MSid, TID, QoS=x, bw = max/mean bit rate + bucket depth, downlink}	width of the IP tunnel towards the SGSN may or the particular QoS delay class. These delay class are preferably dimensioned so necks and are adjusted for each additional	ted RSVP RESV message towards the ning requests from several MSs for the	
	LLC I or supervisory fran { N(R)=V(R), MSid, QoS dela downlink}		If the bandwidth increase is optionally refresh the bandwithat the MS is attached to for the tunnels per SGSN/QoS they do not become bottlen MS flow request.	The GGSN sends an updat next router (possibly combi same flow).	